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IS 1007 (1984): Custard Powder [FAD 16: Foodgrains, Starches and Ready to Eat Foods]



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*Indian Standard*  
SPECIFICATION FOR  
CUSTARD POWDER  
( *Second Revision* )

UDC 664.258



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**INDIAN STANDARDS INSTITUTION**  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# Indian Standard

## SPECIFICATION FOR CUSTARD POWDER

### ( Second Revision )

Edible Starches and Starch Products Sectional Committee, AFDC 33

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SHRI D. S. CHADHA

*Representing*

Central Committee for Food Standards ( Ministry of  
Health and Family Welfare ), New Delhi

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( Continued on page 2 )

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*Indian Standard*  
**SPECIFICATION FOR  
CUSTARD POWDER**  
*( Second Revision )*

**0. FOREWORD**

**0.1** This Indian Standard ( Second Revision ) was adopted by the Indian Standards Institution on 9 July 1984, after the draft finalized by the Edible Starches and Starch Products Sectional Committee had been approved by the Agricultural and Food Products Division Council.

**0.2** Custard powder is made from edible maize starch ( corn flour ) or edible tapioca starch or a blend of both to which suitable colouring and flavouring agents are added. Custard powder may also contain egg or milk solids or both.

**0.3** This standard was first published in 1958 and subsequently revised in 1971 to incorporate a number of modifications, namely, changing the limit of total ash content from 0.30 to 0.50 percent, including the requirement for sulphur dioxide and permitting the use of tapioca starch as major ingredient in the manufacture of custard powder.

**0.3.1** This revision permits the addition of pregelatinized and modified starches, vitamins, nutrients and sugar. It also incorporates a provision for exemption of pouring quality custard from the gelling test.

**0.4** In the formulation of this standard, due consideration has been given to the *Prevention of Food Adulteration Act, 1954* and the Rules framed thereunder. Due consideration has also been given to the *Standards of Weights and Measure ( Packaged Commodities ) Rules, 1977*. However, this standard is subject to the restrictions imposed under these regulations wherever applicable.

**0.5** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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\*Rules for rounding off numerical values ( revised ).

## 1. SCOPE

**1.1** This standard prescribes the requirements and the methods of sampling and test for custard powder.

## 2. TERMINOLOGY

**2.1** For the purpose of this standard the definitions of various terms relating to starch given in IS : 4287-1976\* shall apply.

## 3. REQUIREMENTS

**3.1 Description** — The material shall be made from edible maize starch ( corn flour ) or edible tapioca starch or a blend of both or pre-gelatinized or modified starches made from maize starch ( corn flour ) or edible tapioca starch with or without the addition of edible common salt, milk, albuminous matter, vitamins and nutrients and sugar. It shall contain suitable colouring and flavouring agents ( *see* 3.5 ). The material shall be in the form of a fine powder, free from rancidity, adulterants, insect or fungus infestation and from fermented, musty or other objectionable odour. The material shall also be free from dirt and other suspended and extraneous matter.

**3.2** The edible starch content in the material shall be not less than 80 percent by mass.

NOTE — The material, when examined under a microscope, shall not reveal starch granules other than those of edible maize starch ( corn flour ), or tapioca starch or both. As a guide for easy identification of these two starches, their photo-micrographs have been given in Fig. 1 and 2. ( Pre-gelatinized and modified starches will not be identifiable from these photomicrographs ).

**3.3** The edible maize starch ( corn flour ) and the edible tapioca starch used in the manufacture of the material shall conform to IS : 1005-1976† and IS : 1319-1983‡ respectively.

**3.4 Common Salt** — Edible common salt, if added in the manufacture of the material, shall conform to IS : 253-1970§.

**3.5 Colouring and Flavouring Agents** — The material shall contain only such colouring and flavouring agents as are permitted under the *Prevention of Food Adulteration Rules, 1955*.

**3.6 Hygienic Conditions** — The material shall be processed and packed under hygienic conditions ( *see* IS : 2491-1972|| ).

\*Glossary of terms relating to starch ( *first revision* ).

†Specification for edible maize starch ( corn flour ) ( *second revision* ).

‡Specification for edible tapioca starch ( *second revision* ).

§Specification for edible common salt ( *second revision* ).

||Code for hygienic conditions for food processing units ( *first revision* ).



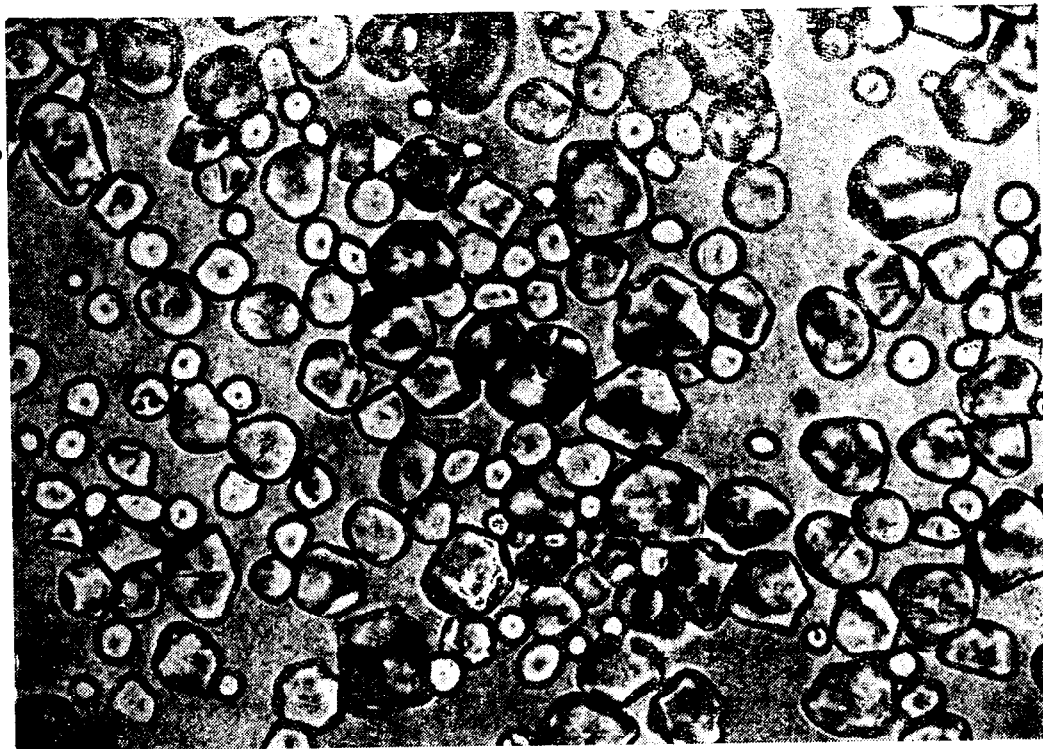
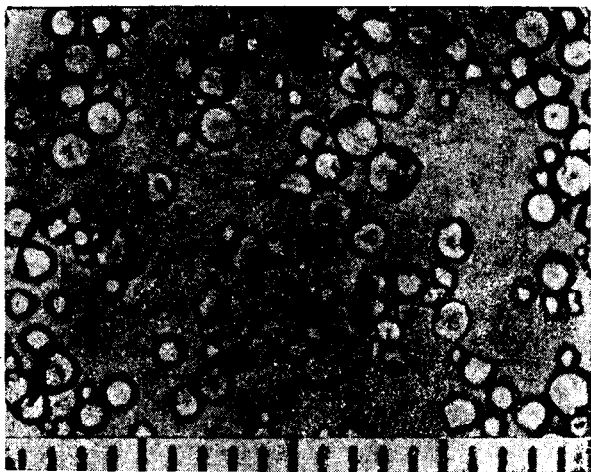


FIG. 1 PHOTOMICROGRAPH OF MAIZE STARCH (  $\times 700$  )



( Scale : 1 division = 10 microns )

FIG. 2 PHOTOMICROGRAPH OF TAPIOCA STARCH (  $\times 325$  )

**3.7** The material shall also comply with the requirements given in Table 1.

**TABLE 1 REQUIREMENTS FOR CUSTARD POWDER**

( Clauses 3.7 and 6.1 )

SL No.	CHARACTERISTIC	REQUIREMENT	METHODS OF TEST, REF TO	
			Appendix of this Standard	Clause No. of IS : 4706 ( Part 2 )-1978*
(1)	(2)	(3)	(4)	(5)
i)	Moisture, percent by mass, <i>Max</i>	14.0 ( see Note 3 )	—	4
ii)	Total ash ( on dry basis ), percent by mass, <i>Max</i> ( see Note 1 )	0.60 ( see Note 3 )	—	6
iii)	Acid insoluble ash ( on dry basis ), percent by mass, <i>Max</i>	0.2 ( see Note 3 )	—	8
iv)	Sulphur dioxide, mg/kg, <i>Max</i>	100	—	11
v)	Gelling power ( see Note 2 )	To satisfy the requirements of tests	A	—

NOTE 1 — Excluding sodium chloride, in case of material containing added edible common salt.

NOTE 2 — The pouring quality custard need not be tested for gelling power.

NOTE 3 — These values have been referred to the Central Committee for Food Standards for consideration. Till such time, as these values are accepted by the Government of India, the granting of ISI Certification Mark shall be based on the existing requirements given under the provisions of the *Prevention of Food Adulteration Rules, 1955* ( see 0.4 ).

\*Methods of test for edible starches and starch products: Part 2 Chemical methods ( first revision ).

## 4. PACKING AND MARKING

**4.1 Packing** — The material shall be packed in clean, sound and dry containers made of such material and of such sizes as agreed to between the purchaser and the supplier.

**4.2 Marking** — Each container shall be suitably marked so as to give the following information:

- Name of the material;
- Name of the manufacturer;
- Batch or code number;
- Net mass;

- e) The statement 'Artificially coloured and flavoured' shall be given separately in capital letters in accordance with *PFA Rules*;
- f) Instruction for preparation with regard to gelling; and
- g) Any other details required under the *Standards of Weights and Measures (Packaged Commodities) Rules, 1977*.

**4.2.1** Each container may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Mark) Act, and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## 5. SAMPLING

**5.1** The method of drawing the representative samples of material shall be as prescribed in IS : 4662-1977\*.

### 5.2 Number of Tests and Criteria for Conformity

**5.2.1** Gelling power and moisture shall be tested on the individual samples and the remaining requirements on the composite sample.

**5.2.2** The lot shall be declared as conforming to the requirements of the specification if all the test results on the individual and composite samples satisfy the relevant requirements.

## 6. TESTS

**6.1** Tests shall be carried out as prescribed in the appropriate appendix and clauses specified under col 4 and 5 of Table 1.

**6.2 Quality of Reagents** — Unless specified otherwise, pure chemicals shall be employed in tests and distilled water (IS : 1070-1977†) shall be used where the use of water as a reagent is intended.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

\*Methods for sampling of starches and starch products (*first revision*).

†Specification for water for general laboratory use (*second revision*).

**APPENDIX A***[ Table 1, Item (v) ]***TEST FOR GELLING POWER****A-1. PROCEDURE**

**A-1.1** Weigh 4 g of the material in a porcelain dish. Add 50 ml of cold water and mix. Heat to boiling over a Bunsen burner, stirring the contents constantly. Boiling shall not exceed one minute. Remove the flame when the paste is transparent and begins to froth. Cool to room temperature.

**A-1.1.1** The material shall be regarded to have satisfied the requirements of the test if the paste formed on cooling does not flow from the dish.

**A-1.1.2** The paste formed on cooling shall be smooth, of uniform consistency and free from lumps.

# INTERNATIONAL SYSTEM OF UNITS ( SI UNITS )

## Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

## Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

## Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s <sup>2</sup>
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m <sup>2</sup>
Frequency	hertz	Hz	1 Hz = 1 c/s (s <sup>-1</sup> )
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m <sup>2</sup>



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